

## **REMARKS**

### **I. Introduction**

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of March 27, 2009 is respectfully requested.

By this amendment claims 1-20 have been cancelled without prejudice or disclaimer to the subject matter contained therein and claims 21-42 have been added. Claims 21-42 are now pending in the application. No new matter has been added by these amendments.

The specification has been reviewed and revised. Due to the number of revisions, the amendments to the specification have been incorporated into the attached substitute specification. For the Examiner's benefit, a marked-up copy of the specification and abstract indicating the changes made thereto is also enclosed. No new matter has been added by these revisions. Entry of the substitute specification is thus respectfully requested.

### **II. Prior Art Rejections**

Currently, claims 1-4, 7, and 9-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated over Moriguchi (Non-patent literature, May 2002, herein referred to as "Moriguchi") and claims 5, 6, and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Moriguchi.

As a preliminary matter, Applicants note that item 4 on page 2 of the Office Action states that claims 1-5 and 7-20 are rejected under 35 U.S.C. § 102(b). This appears to be a minor typographical error in light of the fact that, excepting claims 5, 6, and 8, all of the claims are individually addressed as being anticipated, and claims 5, 6, and 8 are individually addressed

only as being obvious. Also, items 8a, 8b, and 8c on pages 5 and 6 point out limitations in claims 5, 6, and 8 which are not met by the Moriguchi reference; thus Applicants assume that no anticipation rejection is asserted against claims 5, 6, and 8.

In light of the cancellation of claims 1-20, the above rejections are believed to be moot. Further, those rejections are believed to be clearly inapplicable to new claims 21-42 for the following reasons. Claim 21 requires a microchamber for cell cultures comprising, in part, a substrate which does not absorb light of a specific wavelength, an absorption layer which absorbs light of the specific wavelength and a region made of a solid substance which does not absorb light of the specific wavelength and has a melting point lower than the boiling point of water, wherein said absorption layer is disposed in said solid substance. Claim 32 requires a microchamber for cell cultures comprising, in part, a substrate which does not absorb light of a specific wavelength, an absorption layer which absorbs light of the specific wavelength, a first region made of a first solid substance which does not absorb light of the specific wavelength and has a melting point lower than the boiling point of water, a second region made of a second solid substance which does not absorb light of the specific wavelength and has a melting point lower than the boiling point of water, wherein the melting point of said first region is different than the melting point of said second region.

The Office Action states, in rejecting claim 5, that it would have been obvious to modify the Moriguchi reference such that the absorption layer was placed in the substance because rearranging parts of an invention involves only routine skill in the art, citing the Japikse precedent as support. New claim 21 requires a limitation similar to that of claim 5, requiring that the absorption layer be disposed in the solid substance. Applicants respectfully submit that the

above rationale does not support a similar obviousness rejection of claim 21 for the following reasons. In paraphrasing the Japikse precedent, the MPEP provides “Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.” See MPEP 2144.04 (emphasis added). In the instant application, because the operation of the device is modified by disposing the absorption layer in the solid substance, the Japikse reference does not support an assertion of obviousness. Specifically, as described in detail on page 12 of the specification, the height of the tunnel formed by light absorption and heat generation varies depending on the position of the light absorption layer in the solid substance. As further described on page 12 of the specification, dispersing fine particles of the absorption material in the solid substance, the entire solid substance which is exposed to the light of the specific wavelength can be removed. Because the function and operation of the device as recited in claim 21 is different than the Moriguchi reference, the Japikse reference does not support an assertion of obviousness. Thus Applicants respectfully submit that claim 21 requires limitations which are not anticipated or obvious in view of the prior art of record. Allowance is respectfully requested.

The Office Action also states, in rejecting claim 8, that it would have been obvious to modify the Moriguchi reference “to use multiple substances combined to achieve a low boiling point, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability...,” citing the Leshin precedent as support. New claim 32 requires a limitation similar to that of claim 8, requiring a first region of a first solid substance and a second region of a second solid substance, the first and second regions having different

melting points. Applicants respectfully submit that the above rationale does not support a similar obviousness rejection of claim 32 for the following reasons. First, merely selecting a known material would not result in a first region and a second region having different melting points; in fact, merely selecting a known material would not necessarily yield any particular result regarding the comparative melting points of two regions. As such, a modification of the Moriguchi reference involving only the selection of a known material cannot meet the requirements of claim 32. Second, claim 32 does not require a particular material, and thus precedent which involves selection of a known material does not support an assertion of obviousness against claim 32. Third, the Office Action has failed to set forth any known material which could satisfy the requirements of claim 8 or new claim 32; as such, a rationale contingent on the selection of a known material is unsupported. For the reasons set forth above, Applicants respectfully submit that claim 32 requires limitations which are not anticipated or obvious in view of the prior art of record; allowance is respectfully requested. If any similar assertion of obviousness is made against claim 32 in any subsequent Office Action, the Examiner is specifically requested to explain which known material would meet the requirements of claim 32 if used in the apparatus taught by the Moriguchi reference, and how merely selecting a known material could result in a first region and a second region having different melting points.

Claims 23-31 depend, directly or indirectly, from claim 21 and are thus allowable for at least the reasons set forth above in support of claim 21. Claims 33-42 depend, directly or indirectly, from claim 32 and are thus allowable for at least the reasons set forth above in support of claim 32.

Applicants also submit an article herewith entitled "Stepwise pattern modification of

neuronal network in photo-thermally-etched agarose architecture on multi-electrode array chip for individual-cell-based electrophysiological measurement” for consideration by the Examiner regarding unpredictable effects achieved by the present invention.

In view of the foregoing amendments and remarks, inasmuch as all of the outstanding issues have been addressed, Applicants respectfully submit that the present application is now in condition for allowance, and action to such effect is earnestly solicited. Should any issues remain after consideration of the response, however, the Examiner is invited to telephone the undersigned at the Examiner’s convenience.

***The Commissioner is authorized to charge any deficiency or to credit any overpayment associated with this communication to Deposit Account No. 23-0975, with the EXCEPTION of deficiencies in fees for multiple dependent claims in new applications.***

Respectfully submitted,

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/Andrew D. St.Clair/

By: 2009.06.29 16:19:05 -04'00'

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Attachment: I. Suzuki et al. “Stepwise pattern modification of neuronal network in photo-thermally-etched agarose architecture on multi-electrode array chip for individual-cell-based electrophysiological measurement”, Lab Chip, pp. 241-247. (2005)

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